

### **REMARKS**

The foregoing Amendment and remarks which follow are responsive to the Office Action mailed October 23, 2003 in relation to the above-identified patent application. In that Office Action, the Examiner rejected Claims 1-6 and 11-21 under 35 U.S.C. §102(e) as being anticipated by the Chun-Jen et al reference. Additionally, the Examiner rejected Claims 7-10 and 27-31 under 35 U.S.C §103(a) as being unpatentable over the combination of the Chun-Jen et al and Kim references.

#### **Summary of Claim Amendments**

By this Amendment, Applicant has amended independent Claims 1, 27 and 30. More particularly, independent Claim 1 has been amended to describe the first, second and third surfaces of each of the leads as being *generally planar*, and the third surface as being disposed in opposed, *substantially parallel* relation to the second surface. Additionally, Claim 1 has been amended to describe at least the first and second surfaces of each of the leads as being covered by the encapsulating portion of the semiconductor package.

Independent Claims 27 and 30 have each been amended to recite a plurality of protective layers disposed on respective ones of the leads, each of the protective layers being configured such that a portion of a corresponding one of the leads is exposed therein so as to define a land. Claims 27 and 30 have each further been amended to describe the conductive connectors used to electrically and mechanically connect the first and second semiconductor dies to the leads as abutting respective ones of the lands.

#### **Amended Independent Claim 1 is Not Anticipated by the Chun-Jen Reference**

Applicant respectfully submits that independent Claim 1 as amended is not anticipated by the Chun-Jen et al reference. On page 2 of this latest Office Action, the Examiner has labeled various parts of the semiconductor package shown in Figure 5 of the Chun-Jen et al reference with the reference letters A-E. More particularly, the letter A is correlated to the first surface recited in Claim 1, the letter B to the second surface, and the

letter C to the third surface. The letter D is correlated to the outer end of each lead described in Claim 15, with the letter E being correlated to the fourth surface of each lead described in Claim 16.

Considering where the Examiner has placed the corresponding leader lines for the reference letters A and B added to Figure 5 of the Chun-Jen et al reference, the first surface A appears to initially extend angularly from the main body of the lead, transitioning into a distal section which extends between and in generally parallel relation to those surfaces of the semiconductor dies 310, 350 to which the solder bumps 330 are engaged. The second surface labeled with the reference letter B has the same shape as the first surface A.

Thus, neither the first or second surfaces identified by the Examiner as A and B in Figure 5 is “*generally planar*” as recited in Claim 1 as amended. Further, since each of the first and second surfaces labeled by the Examiner with the reference letters A and B appears to include the aforementioned angularly extending portion, the second surface labeled with the reference letter B does not extend in opposed, “*substantially parallel*” relation to the third surface labeled by the Examiner with the reference letter C, as is described in relation to the second and third surfaces in amended Claim 1.

Even assuming, arguendo, that only those portions of each lead in Figure 5 of the Chun-Jen et al reference with extend between and in generally parallel relation to those surfaces of the semiconductor dies 310, 350 to which the solder bumps 330 are engaged are deemed to satisfy the first and second surface limitations recited in amended Claim 1, the third surface identified by the Examiner with the reference letter C **does not** extend in “*opposed*” relation to such second surface as is described in relation to the second and third surfaces in Claim 1. Rather, the third surface C extends in opposed relation to the fourth surface labeled with the reference letter E, the second surface being disposed well inward of the third surface C, and actually extending in opposed relation to a portion of that surface of the uppermost semiconductor die 350 having the solder bumps 330 engaged thereto. This deficiency is not overcome by construing that surface labeled with the reference letter E as part of the second surface, since the second surface would then not be covered by the encapsulating portion as recited in amended Claim 1. Thus, Applicant respectfully submits that independent Claim 1 as amended is not anticipated by the Chun-Jen et al reference and is

in condition for allowance, as are Claims 2-21 as being dependent upon an allowable base claim.

**Amended Independent Claims 27 and 30 are Not Rendered Obvious by the Combination of the Chun-Jen and Kim References**

Referring now to the Section 103(a) rejection advanced by the Examiner, Applicant respectfully submits that independent Claims 27 and 30 are not rendered obvious by the combination of the Chun-Jen et al and Kim references. In this latest Office Action, the Examiner relies upon the teachings of the Kim reference for satisfying the protective layers described in the specification of the present application. In Figure 3 thereof, the Kim reference discloses a chip 1 which includes bonding pads 3, each of the bonding pads 3 being covered with a protective film 7. A wire bond 20 is bonded to the bonding pad 3 by, for example, a ball bonding process involving a ball 22. As is specifically recited in the specification of the Kim reference, although the bonding pads 3 of the chip 1 are each covered with the protective film 7, as a result of the extremely low thickness of each protective film 7 and the severe conditions of very high temperature and pressure or ultrasonic energy applied to the bonding pads 3, the protective film 7 is destroyed at the area of the ball bonding, so that the ball 22 can be completely bonded to the bonding pad 3 (see column 3, lines 47-54).

Thus, the explicit teaching of the Kim reference is that each protective film 7 is initially formed to be continuous, with the removal of a portion thereof occurring only as a result of its destruction during the ball bonding process. In contrast, in each of Claims 27 and 30 as amended, each protective layer is specifically described as being configured such that a portion of a corresponding one of the leads is exposed therein so as to define a land, the conductive connectors used to electrically and mechanically connect the first and second semiconductor dies to the leads abutting respective ones of these lands. This configuration, wherein each protective layer is specifically configured to define a bump land on the corresponding lead, is in stark contrast to the teachings of the Kim reference which, as indicated above, are limited to the engagement of the ball 22 to the bond pad 3 only upon the destruction of a portion of the corresponding protective film 7. Thus, Applicant respectfully

Application No.: 10/044,141  
Response to Office Action of October 23, 2003  
Attorney Docket: AMKOR-018A

submits that independent Claims 27 and 30 as amended are in condition for allowance, as are Claims 28, 29 and 31 as being dependent upon respective allowable base claims.

**Conclusion**

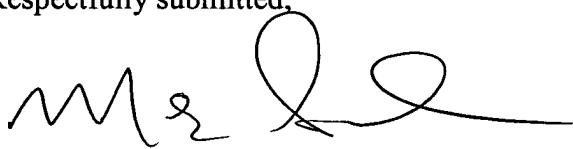
On the basis of the foregoing, Applicant respectfully submits that the stated grounds of rejection have been overcome, and that Claims 1-21 and 27-31 are now in condition for allowance. An early Notice of Allowance is therefore respectfully requested.

If any additional fee is required, please charge Deposit Account Number 19-4330.

Respectfully submitted,

Date: 1/22/04

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